

New Dolichopodidae from Canada, Mexico, and the Western United States (Diptera)

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This report includes descriptions of several Dolichopodidae, apparently undescribed heretofore, that were among specimens received for identification from Dr. P. H. Arnaud, Jr., California Academy of Sciences, San Francisco; Mr. Robert Schuster, University of California, Davis; and one specimen collected in Texas by the author.

Dolichopus monarchus n. sp.

Male. Length, 5.8 mm. Face brownish yellow. Front black, lightly dusted with gray pollen which is thicker along the upper margins of the eyes. Antenna black: third segment about as broad as long. Postocular cilia black.

Mesonotum and scutellum dark bronze green, brownish pollinose when viewed obliquely. Pleurae dark, with bronze reflections, densely grayish pollinose. Halteres yellow. Calypters yellow with abundant short black cilia. Abdomen dark metallic green with bronze reflections, the venter and lower lateral portions grayish pollinose. Hypopygium black; outer lamellae uniformly brownish yellow, elongate-oval, only slightly longer than wide, the apex without notches, but evenly jagged and bristly.

Coxae black, grayish pollinose, the fore and middle pairs with black hairs and bristles on anterior surface. Femora black; middle and hind pairs each with a single preapical bristle; the hind pair with long black cilia (brownish black in certain lights) on lower inner edge. Fore tibiae dark yellow, the distal portion distinctly infuscated. Middle tibiae dark yellow on basal portion, shading to a whitish color on middle portion, the apical fifth black, distinctly flattened, and with an abundance of close-set, short, black bristles on posterior edge which accentuate the

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flattened appearance. Hind tibiae conspicuously thickened on basal third and apical fourth, of a sordid yellowish brown color with apical half darker on inner and outer sides and the apical fourth black. Fore tarsi black from the tip of first segment. Middle basitarsi white with apical fifth black, the white portion on outer side devoid of black hairs except at the extreme base; two short black bristles on outer side and a row of about six similar bristles on lower surface; second and third segments black; fourth and fifth segments dark brown, the apical half of the third segment and the fourth and fifth segments showing a bright silvery reflection in certain lights. Hind basitarsi thickened and greatly elongated, nearly as long as the tibiae, the upper and outer surfaces sparsely clothed with black bristles.

Wings elongate, with a uniform brownish tinge; broadly indented at tip of fifth vein; hind margin bowed outward opposite the cross-vein where the wing is widest, the portion behind the tip of sixth vein slightly concave giving the anal angle a prominent rounded appearance; costa thickened at tip of first vein and gradually tapering toward apex.

Female. Face dark gray, about twice as wide as that of male; color of body and legs as in male except that the basal four-fifths of middle tibiae and basal half of middle basitarsi are dark yellow; the apical segments of middle tarsi do not show the silvery reflection; hind femora without setae on lower edge; wing evenly rounded from tip of fifth vein; costa less distinctly thickened than in male.

Described from six males and seven females collected by Owen Bryant at Aklavik, Northwest Territory, August 27, 1931. Holotype male, allotype female, three paratype males, and four paratype females returned to the California Academy of Sciences; two paratype males and two paratype females in the collection of the author.

Differentia. *Dolichopus monarchus* n. sp. is closely related to *Dolichopus stenhammari* Zetterstedt from which it differs by having the apex of middle tibia noticeably flattened and with an abundance of short, close-set bristles on posterior surface. Also, in *stenhammari*, the outer surface of the apical segments

of middle tarsi does not show a bright silvery reflection; the hind margin of the wing is not conspicuously widened opposite the tip of fifth vein and lacks the broad concavity between the tips of the fifth and sixth veins. *Dolichopus mannerheimi* Zetterstedt, a related species, is easily separated from *D. monarchus* n. sp. by having pale cilia on the calypters and the apical portion of wing distinctly blackened.

Tachytrechus boharti n. sp.

Male. Length, 7 mm. Face wide, narrowest on upper portion where its width equals the length of second segment of fore tarsi, the margins evenly bowed outward with the apical third considerably wider than the basal portion; grayish pollinose, the lower sloping portion yellowish pollinose when viewed obliquely. Front dark bronze, submetallic. Palpi dark brownish pollinose. Postocular cilia wholly black. Antennae dark yellow; third segment brown on apical half, about as broad as long, rounded at tip. Arista wholly black, about the length of the fore tibia, with an elongated, narrow, spear-shaped enlargement at tip.

Mesonotum black with bronze reflections, pleurae dark bronze, submetallic, dusted with coarse pollen which appears brownish in some lights and grayish in others. Abdomen dark bronze, submetallic, grayish pollinose when viewed from behind, the incisures narrowly blackened. Hypopygium black, the last segment appearing metallic green and densely grayish pilose when viewed from behind. Lamellae sordid yellowish, somewhat rectangular, longer than wide, the outer surface and margins clothed with short, stiff, black setae.

Coxae concolorous with pleurae, the anterior surfaces with black hairs and bristles. Femora black on basal half, the apical half brownish yellow. Basal half of all tibiae dark brown shading to black on distal portions, with numerous strong hairs and bristles on outer surfaces. Tarsi wholly black. Halteres and calypters yellow, the latter with black setae.

Wings of rather uniform width throughout; tinged with brown, particularly in front of third vein, narrowly along the

fourth and fifth veins and the cross-vein; distal segment of fourth vein strongly bowed forward at about the middle.

Described from one male collected by R. M. Bohart at Yuba Pass, Sierra County, California, July 7, 1964. Holotype male deposited in the University of California, Davis, insect collection.

Differentia. *Tachytrechus boharti* n. sp. is readily separated from all of the presently known *Tachytrechus* by the wholly black, spear-shaped arista.

Systemus californicus n. sp.

Male. Length, 3.4 mm. Face about as broad as the first segment of antennae; showing the bluish, submetallic ground color when viewed from the front, grayish pollinose when viewed obliquely. Front concolorous with face. Palpi dark brown, with fine black setae and several prominent apical bristles. Postocular cilia pale, the cilia above the corner of the eyes black. First and second segments of antennae brown on upper half, sordid yellow below; third segment black, finely pubescent, broad on basal half, sharply narrowed on apical half, the apex pointed, as long as the first segment of fore tarsi. Arista apical about one-third the length of third segment.

Thorax dark, subopaque, with dull bronzy reflections, densely grayish pollinose; scutellum with two pairs of strong marginal bristles. Halteres and calypters yellow, the latter with yellowish setae. Abdomen black with dark bronze reflections, densely clothed with short, stiff, black hairs, apical margins of tergites with a row of long black bristles. Hypopygium pedunculated, slender, about one-half the length of abdomen; appendages of peculiar and complicated structure, consisting of a pair of short, truncate, outer lamellae, a pair of longer, curved, ventral lobes each bearing three or four long, yellowish, clavate bristles at tip, and a rounded central organ bearing two long, curved, yellow bristles near the tip on lower edge.

Legs yellow. Fore and middle coxae clothed with pale hairs and with pale bristles at the tip. Middle and hind coxae with a strong pale bristle on outer side. Femora with black hairs on upper surface and on lateral portions to the middle, bare on lower half. Fore tibiae without bristles. Middle tibiae with

a pair of bristles at basal fourth and apical third. Hind tibiae with a row of short, black bristles on posterior surface. Apical segment of all tarsi dark. Hind basitarsi one-half the length of second segment.

Wings grayish hyaline, immaculate; distal half of fourth vein strongly divergent from third vein, ending behind the apex of wing; anal margin broadly rounded.

Described from one male collected by H. B. Leach at Mill Valley, Marin County, California, June 25, 1950. Holotype male in the California Academy of Sciences insect collection.

Differentia. *Systemus californicus* n. sp. resembles *S. apicalis* Wirth in coloration of body and legs and in structure of the antennae. The latter species is distinguished by having the apex of wing white with subapical black spot between the tips of third and fourth veins.

Campsicnemus cinctipus n. sp.

Male. Length, 2 mm. Face narrowed in the middle, coarsely pollinose, appearing gray or grayish brown depending on the angle of reflection. Front grayish pollinose, the violet ground color more prominent on occipital area. Postocular cilia delicate and pale, the uppermost cilia black. Antennae black; third segment elongate, triangular, as long as the second segment of fore tarsi, densely pubescent. Arista inserted near the base and at the widest portion of third segment.

Metanotum and scutellum subopaque with yellowish brown pollen, the scutellum with a pair of large marginal bristles and three small evenly-spaced hairs on posterior edge. Pleurae subopaque, grayish pollinose. Abdomen concolorous with metanotum, the bristles and hairs black. Hypopygium embedded; lamellae elongate-oval, the posterior surface clothed with delicate pale cilia. Halteres brownish yellow; calypters yellow with black setae.

Fore coxae concolorous with pleurae on basal half, shading to yellowish brown on apical half, the anterior surface clothed with white hairs and with black bristles at the tip. Middle and hind coxae concolorous with pleurae. Femora, tibiae, and tarsi ranging from brownish yellow to dark brown in the six speci-

mens at hand. Fore femora with about four delicate, pale, hair-like bristles below near the base. Middle femora without external preapical bristle, suddenly tapering from the middle to the tip, bearing a double row of long, sharp, black bristles on its lower side. Hind femora with a single large external preapical bristle at a right angle to point of attachment, without noticeable bristles on lower edge. Middle tibiae with a row of long blunt bristles of uniform length extending the full length of tibia, and a longer, pointed bristle on the outer side near basal third. Tarsi of plain structure and without unusual hairs or bristles.

Wings grayish hyaline, the veins black, without any infuscation on the cross-vein or the distal segment of fourth vein.

Female. Coloration of body and legs uniformly darker than in the male. Face wider than in the male and lighter in color. Third segment of antennae short, triangular, as broad as long. Middle and hind femora each with prominent external preapical bristle. Middle femora and tibiae without noticeable bristles on lower edge, the latter with three large bristles on outer side.

Described from four males and two females collected by Owen Bryant at Aklavik, Northwest Territory, May 18 to July 8, 1931. Holotype male and allotype female (May 18), and two paratype males in the California Academy of Sciences insect collection; one paratype male and one paratype female in the collection of the author.

Differentia. *Campsicennmus cinctipus* n. sp. is closely related to *C. degener* Wheeler which it resembles in the structure and spinulation of middle femora and middle tibiae. However, in *C. degener* the third segment of antennae is as broad as long; the distal segment of fourth vein has a distinctly infuscated concavity, and the first and second segments of the hind tarsi bear a row of delicate, hooked cilia on the lower edge.

***Asyndetus nevadensis* n. sp.**

Male. Length, 2.8 mm. Face brilliant silvery pollinose, rectangular, slightly longer than wide, the width about equal to the length of second segment of fore tarsi. Front about as wide

as the face, silvery pollinose, the green ground color evident. Palpi black, lightly silvery pollinose when viewed obliquely, bearing several black bristles on upper surface of which two near the tip are much larger and extend outward from the apex of palpi. Antennae black; third segment about twice as broad as long, broadly rounded, pale pilose. Arista inserted at extreme base of third segment. Lower postocular cilia and whiskers white.

Thorax bluish green, submetallic, lightly dusted with silvery pollen. Abdomen dark green, silvery pollinose, the hairs black, with four strong black bristles at tip. Hypopygium embedded, the lamellae small, black, the upper surface and margins densely ciliated.

Coxae concolorous with thorax; anterior surface of fore and middle pairs with black hairs and bristles; hind coxae with a long black bristle at extreme base on outer side. Femora concolorous with thorax. Fore femora with a row of long slender bristles on lower edge of outer surface; the row of bristles is interrupted near the basal third, those nearest the base are considerably longer than the diameter of femora at point of attachment; lower inner edge of femora with a row of shorter bristles. Middle femora with two short, stout, black bristles on lower edge, one inserted at the base, the other at basal third, and a long, slender bristle on lower edge near the tip of femora. Hind femora without prominent bristles except the preapical bristle. Fore tibiae yellow, with short hair and without prominent bristles. Middle tibiae yellow, with two long, stout, black bristles inserted on outer surface, one at basal fourth, the other at apical third. Hind tibiae black with strong black bristles distributed sparsely over the posterior surface. Fore and middle tarsi black, of plain structure and without unusual spinulation; pulvilli of fore tarsi noticeably elongated. Hind tarsi with all segments densely clothed with long hairlike bristles on upper surface; fourth and fifth segments shortened, about as broad as long; tip of fifth segment bearing a dense fringe of short, stiff, hooked bristles on upper edge which imparts a rounded, fan-like tip to the tarsi, the pulvilli noticeably elongated.

Wings grayish hyaline, of typical *Asyndetus* venation.

Described from one male collected by T. R. Haig, 15 miles southwest of Winnemucca, Nevada, September 9, 1959. Holotype male in the University of California, Davis, insect collection.

Differentia. *Asyndetus nevadensis* n. sp. resembles *A. oregonensis* Harmston but differs in lacking a row of long bristles on outer side of middle tibia; in lacking long bristles on upper surface of middle basitarsus; and in having the fourth and fifth segments of hind tarsi shortened and of equal length. In *A. oregonensis* the fifth segment of hind tarsi is flattened and nearly three times as long as the fourth.

***Asyndetus crassipodus* n. sp.**

Male. Length, 3 mm. Face and front silvery polinose, their sides parallel, the width of each equals the length of hind basitarsus. Palpi elongated, narrow, somewhat spoon-shaped, black, the outer edges silvery polinose, with three prominent black bristles near tip. Antennae black; third segment slightly broader than long, the tip broadly rounded. Postocular cilia and whiskers white.

Thorax and abdomen dark metallic green, silvery pollinose, the hairs and bristles black. Hypopygium embedded.

Coxae, femora, and middle and hind tibiae metallic green. Fore coxae with black hairs on anterior surface. Fore femora with prominent black bristles on lower outer surface. Middle femora with two short, stout, black bristles near base on lower edge. Middle tibiae extremely hairy and bristly on whole of outer surface and with a row of about four short, stout bristles on apical third of inner edge. Hind tibiae laterally compressed, about twice the width of hind femora, with a row of about six evenly-spaced, long, black bristles on the posterior edge of apical third. Fore tarsi dark yellow at the base shading to black tip; the basitarsus considerably thicker than the other segments and about equal in length to the following four segments which are noticeably laterally compressed; distal half of basitarsus with an irregular row of about seven short, flattened bristles which begin on the lower side and curve outward to end on the outer side of the segment. Middle tarsi of plain structure. Hind tarsi of

peculiar structure; first four segments reduced in length, the third and fourth as broad as long and bristly on upper surface; fifth segment flattened, attached to the fourth at an angle, the basal portion extending slightly over the tip of fourth segment and bearing a clump of long bristles which curve downward beyond the tip of the segment to meet a cluster of long, delicate, crinkly hairs extending from the tip of the segment. Halteres yellow; calypters yellow with long white setae.

Wings grayish hyaline, immaculate; apical segment of fourth vein interrupted, the distal portion represented by a fold in the wing; cross-vein far before the tip of first vein; anal angle prominent, evenly rounded.

Described from one male collected by E. P. Van Duzee at Red Rock Canyon, Kern County, California, May 18, 1937. Holotype male in the California Academy of Sciences insect collection.

Differentia. The peculiar structure of the hind tarsi together with the laterally compressed hind tibiae readily distinguish this species from all other of the presently known species of *Asyndetus*.

***Sympycnidelphus texanus* n. sp.**

Male. Length, 3.2 mm. Face narrow in the middle portion, broader at tip and immediately below antennae; pale grayish pollinose. Front densely grayish pollinose. Palpi brownish in certain lights, grayish pollinose when viewed obliquely. Antennae yellow; third segment brown on apical half, triangular, about as long as its basal width, tip slightly rounded, pale pilose. Arista basal, black. Postocular cilia black above, the lower cilia pale.

Metanotum densely grayish pollinose, submetallic, appearing green in some lights, bluish-violet in others; pleurae densely grayish pollinose. Abdomen dark green with bronze reflections, grayish pollinose, the hairs black, those on apical margins of tergites larger and bristle-like. Scutellum bare, with one pair of large marginal bristles. Hypopygium brownish, forming a rounded tip to the abdomen, lamellae small, elongate, the posterior surface pale pilose and with a few delicate pale cilia on

the edges. Halteres yellow; calypters white with narrow brown margin and black cilia.

Fore coxae yellow, the anterior surface with brownish hairs, the tip with black bristles. Basal half of middle coxae concolorous with pleurae, the apical half and posterior portion yellow, grayish pollinose, with a scattering of brownish hairs and a strong black bristle on anterior surface. Hind coxae yellow, lightly grayish pollinose, with a strong black bristle on outer side. Femora yellow. Hind femora with five strong black bristles on lower edge which are about as long as the width of femora; two bristles are inserted close together near base of femur, the first bristle is small and directed obliquely toward the tip of second bristle; the following three bristles are evenly-spaced and inserted at about the middle of femur. Tibiae yellow. Middle tibiae with three strong black antero-dorsal bristles, one at basal sixth, one at basal fourth, and one slightly beyond the middle. Hind tibia flattened above at tip. Fore tarsi yellow, the apical three segments infuscated. First segment with three long bristle-like hairs on inner side at tip; second segment shortened, somewhat swollen, the inner surface densely clothed with short, pale, hooked cilia; last three segments of plain structure. Middle tarsi brownish, of plain structure. Hind basitarsi slightly bowed when viewed from the side; third and fourth segments with a row of close-set, brownish, hairlike bristles on lower edge which are slightly longer than the diameter of the segments. Length of segments of fore tarsi as 10-2-3-2-2; of middle tarsi as 18-8-7-4-3; of hind tarsi as 8-10-8-7-3.

Wings hyaline, of rather equal width; distal segment of fourth vein with a bend at basal two-fifths, converging toward third vein, then about parallel with third vein on last portion, ending slightly before the apex of wing; cross-vein about one-half the length of distal segment of fifth vein.

Described from one male collected by the author at Corpus Christi, Texas, August 30, 1966. Holotype male deposited in the U. S. National Museum.

Differentia. This species is closely related to *S. sharpi* Robinson, described from Tennessee. It appears distinct by differing

in the comparative lengths of the segments of hind tarsi and in possessing a row of long hair-like bristles on the lower edge of the third and fourth segments. The comparative lengths of the segments of hind tarsi in *S. sharpi* are described as 5-10-6-3-2 and no mention is made of a row of bristles on the lower edge of the third and fourth segments.

***Sympycnidelphus californicus* n. sp.**

Male. Length, 3.6 mm. This species is similar to *S. texanus* n. sp., described above, in general appearance. It differs as follows: Third segment of antennae about twice as long as basal width; metepimeron and basal two segments of abdomen yellow; comparative lengths of segments of fore tarsi as 17-4-10-6-5; of middle tarsi as 33-15-10-7-4; of hind tarsi as 14-22-11-6-5; second segment of hind tarsi with a row of delicate pale setae on lower edge which are longer than the diameter of segment; bend in distal segment of fourth vein at basal fourth; cross-vein about one-third as long as distal segment of fifth vein.

Described from two males collected by L. A. Stange at Fiddletown, Amador County, California, July 18, 1961. Holotype male in the University of California, Davis, insect collection. Paratype male in California Academy of Sciences insect collection.

***Chrysotus bajaensis* n. sp.**

Male. Length, 1.3 mm. Face forming an elongate triangle immediately below the antennae, grayish pollinose, the green ground color apparent, eyes narrowly separated or touching on lower portion. Front black with bronze reflections, lightly grayish pollinose. Antennae black; third segment about as broad as long, somewhat triangular with rounded tip. Arista apical. Lower postocular cilia white and delicate, the upper black cilia descend to about the middle of the eye. Palpi brilliant silvery pollinose, slightly longer than wide, tips broadly rounded, bearing a prominent, but short, white bristle slightly beyond the middle.

Body and legs black, the mesonotum and abdominal tergites with dark bronze reflections when viewed obliquely. Bristles

of thorax and abdomen black. Stem of halteres brown, the knob yellow. Calypters pale with delicate pale cilia.

Fore and middle coxae with pale hairs and bristles on anterior surface; the hind coxae with a large white bristle on outer side near the base and a smaller white bristle slightly beyond the middle. Tibiae dark brown, the hind pair with only short hairs and bristles. Tarsi black, the pulvilli of fore pair slightly elongated.

Wings grayish hyaline; cross-vein at about the basal third of wing and about one-third the length of distal segment of fifth vein; fourth vein nearly parallel with third vein and ending slightly in front of apex of the wing.

Described from one male collected by P. H. Arnaud, Jr., at Rancho Viejo, Sierra San Pedro Martir, Bahia California, Mexico, elevation—7,000 ft., June 14, 1953. Holotype male deposited in the California Academy of Sciences insect collection.

Differentia. *Chrysotus bajaensis* n. sp. resembles *C. teapanus* Aldrich in general coloration of body and legs but it differs from the latter species by possessing large silvery pollinose palpi.

***Sympycnus arizonicus* n. sp.**

Male. Length, 2 mm. Face narrow, its width about equal to the diameter of the middle tibia, silvery pollinose. Front silvery pollinose above the antennae and bordering the eyes, the middle portion surrounding the ocellar tubercle metallic, dark violet. Antennae black; first segment elongated, narrow; third segment about as long as the first, tapering slightly toward the apex, the tip broadly rounded, densely short pilose. Arista inserted at extreme base of third segment, as long as the combined length of the first and second segments of middle tarsi; gradually but considerably widened on the apical portion. Lower postocular cilia pale.

Mesonotum and scutellum submetallic with greenish bronze reflections, densely covered with coarse gray pollen; pleurae densely pollinose, of a paler color than the mesonotum. Abdomen dark, with bronze reflections, the venter, second segment, and hypopygial capsule yellowish brown.

Coxae, femora, and tibiae yellow. Fore and middle coxae with pale hairs and bristles on anterior surfaces. Middle femora with a row of short pale hairs on basal half and about 4 long, delicate, bristly hairs on lower edge near the middle; the four long hairs are evenly spaced and are about as long as the diameter of the tibia at point of attachment. Hind femora with a row of four long, slender, bristly hairs on apical half; the hairs are about twice as long as the diameter of femur and have their tips bowed backward. Middle tibiae with two prominent black bristles on anterior edge, one inserted at the basal fourth, the other at the middle. Hind tibiae with a row of evenly spaced, short, bristly hairs on basal three-fourths of inner edge; these hairs are about as long as the diameter of tibia. Fore tarsi of plain structure except for the shortened first segment and the presence of a short stiff pale bristle at tip of second segment on inner side. Middle tarsi with several long, delicate, pale, curved hairs on outer side at the tip of first segment, at the base of second segment which is slightly enlarged, and on the fourth and fifth segments. Hind tarsi without unusual hairs or bristles and of plain structure. Comparative lengths of the segments of fore tarsi as 2-12-4-4-4; of middle tarsi as 20-4-4-4-4; of hind tarsi as 10-12-8-6-4. Halteres and calypters yellow, the latter with pale cilia.

Wings gray, hyaline; veins brownish; distal portions of third and fourth veins about parallel, the latter ending slightly in front of the tip of wing; cross-vein somewhat oblique, about one-third the length of distal portion of fifth vein, their comparative lengths as 8 to 25; hind margin of wing evenly rounded, the anal angle prominent.

Described from one male collected by Owen Bryant at Santa Catalina Mountains, Arizona, June 10, 1938. Holotype male in the California Academy of Sciences insect collection.

Differentia. *Sympycnus arizonicus* n. sp. resembles *S. distortus* Van Duzee in general appearance and coloration. It differs in the comparative lengths of the segments of fore and middle tarsi and in having the arista much longer and less flattened on apical portion.

Neurigona fuscularis n. sp.

Male. Length, 4.4 mm. Face narrow, the eyes barely separated on middle portion, silvery pollinose. Front densely grayish pollinose, completely obscuring the ground color. Palpi yellow, the margins with prominent pale cilia. Antennae yellow; third segment brown on apical half. Postocular setae white except for the two uppermost setae on each side which appear brownish black or black depending on the angle of reflection.

Metanotum, scutellum, and pleurae densely grayish pollinose; metepimeron dull yellowish; pleurae and scutellum showing dull violet reflections; metanotum with bluish reflections and four brown vittae, the lateral ones less distinct. Abdomen black; first segment densely grayish pollinose with about five long black bristles on lateral portions; segments two to four with wide apical yellow bands; fifth segment yellow; venter with long pale setae, especially prominent on the apical half of the third segment and on fourth and fifth segments. Hypopygium shining black with black appendages, the upper apical portion extremely prominent and rounded.

Fore coxae with a few small yellow hairs on anterior surface and three strong yellow bristles at tip. Middle coxae with a few small yellow hairs near the tip and two small dark brown (or black) bristles on the outer apical portion. Hind coxae with a long black bristle on outer side. Fore tibiae with a row of short hooked bristles on inner side which are continued on the metatarsis where the bristles are larger. Inner edge of the first three segments of fore tarsi densely ciliated with delicate pale hairs which are nearly as long as the diameter of the segments and are inserted at right angles. Fourth and fifth segments of fore tarsi black, flattened, and fringed with short flattened bristles, forming a somewhat elongate-oval tip to the tarsi. Comparative lengths of the fore tibiae and fore tarsi as 21 to 22. Comparative lengths of the segments of fore tarsi as 14-3-2-2-1.

Middle femora with two long yellow bristles on lower edge near the base; these bristles are about twice as long as the diameter of femur. Hind femur with one small, slender, yellow bristle on lower edge at basal fifth which is only about one-third

as long as the diameter of femur. Halteres and calypters yellow, the latter with whitish cilia.

Wings grayish hyaline on slightly more than the basal half, the apical portion strongly infuscated as far as the fourth vein; fourth vein strongly bowed forward at the middle and ending in the apex of wing not far from the tip of third vein; hind margin of wing strongly tapering toward the base, the anal angle obsolete.

Female. Similar to the male in general coloration. Face wider, its width equaling the diameter of fore tibia. Fore and middle coxae with abundant black hairs on anterior surfaces and black bristles at tip. Fore tarsi plain. Middle and hind femora without yellow bristles below at base. Wing with anal angle evenly rounded, prominent.

Described from five males and five females collected by Owen Bryant at Santa Catalina Mountains, Arizona, June 15, 1938. Holotype male, allotype female, two paratype males and two paratype females in the California Academy of Sciences insect collection; two paratype males and two paratype females in the collection of the author.

Differentia. The strongly infuscated wing, together with the two long yellow bristles on lower basal portion of middle femora, readily separates *N. fuscalaris* from the related species of the genus which have the fourth and fifth segments of fore tarsi black, flattened, and fringed on each side with short, flat, black bristles.

Books

A SURVEY OF THE PARASITES OF WILD MAMMALS AND BIRDS IN ISRAEL

By O. Theodor and M. Costa. The Israel Academy of Sciences and Humanities, Jerusalem, 1967. Pp. 117, 3 maps. Price, \$4.00. Daniel Davey & Co., Inc. Publishers, N.Y., N.Y.

The purpose of this survey was to study the systematic zoogeographic and epidemiological aspects of the parasite fauna of Israel. This portion of the survey consists primarily of a